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The Influence of Response Modality
on Children's Imitation of Helping
and Coercive Behavior

A Thesis
Presented to the Graduate Faculty
of the University of the Pacific

In Partial Fulfillment
of the Requirements for the
Degree Master of Arts

by
Wallace Arthur Melcher
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Abstract

The present study examined the effects of adult, film mediated models on the prosocial behavior of school children. Also the effect of congruency and incongruency between the model's response and the response the children were asked to perform was investigated.

Thirty third-grade students, 19 female and 11 male, were randomly assigned to three groups. The first group observed a short film of an adult model providing helping (positive) feedback to a young boy who was playing a marble maze game. The second group was treated identically to the first except that the model provided coercive (negative) feedback. The third group observed a neutral (no feedback) model. Each of the three groups was then divided in half. Half of

the students from each group were asked to give feedback to an unseen boy who was playing the marble maze game by speaking into a microphone (congruent with model). The other half of the students gave the unseen boy feedback manually by pressing levers (incongruent with model). The results indicated that the students who gave verbal feedback displayed significantly more imitation than those who gave motor feedback. The students who made verbal responses also made statements about the unseen boy's performance on the game that conformed more closely to the type of feedback (positive, negative, neutral) the model provided than those students who made motor responses.

Imitative learning in children has been demonstrated using language acquisition (Bandura & Harris, 1966; Slobin, 1968), dramatic play (Marshall & Hahn, 1967), dog and snake phobias (Bandura, Blanchard, & Ritter, 1968; Bandura & Menlove, 1968), and aggression (Bandura, 1965; Berkowitz, 1969; Hicks, 1965). Another application has been to promote children's prosocial behavior. As Bandura (1969) suggests, it would be difficult to imagine a society that depended entirely on differential reinforcement to teach children appropriate social behaviors. A socialization process like that would be forced to proceed in a very time-consuming, trial-and-error fashion. On the other hand, by providing children with relevant models, the socialization process can be greatly accelerated.

Rushton (1976) examined the literature on modeling in promoting children's prosocial behavior. In the majority of studies, the effects of modeling on children's sharing or self-denying responses were investigated (Elliott & Vasta, 1970; Midlarsky & Bryan, 1973; Presbie & Coiteux, 1971). What the results suggest is that both of these response classes can be increased by providing appropriate models and allowing children to observe them.

In contrast to the numerous studies on children's sharing behavior, surprisingly few studies have investigated the role of modeling on children's helping behavior (Cook & Stingle, 1974). When one considers that helping is an attribute children are expected to acquire, it is ironic that so little attention has been given to it in the modeling literature.

Of the studies that have examined the effects of modeling on children's helping behavior, a very early study by Chittenden (1942) stands out as a classic. Chittenden attempted to replace the domineering and hyperaggressive behaviors of small children with less assertive, more helpful responses. To bring that change about, Chittenden had preschool children observe scenes in which dolls were working out solutions to problems common to the children themselves. Some of these scenes depicted the dolls resolving their problems in aggressive and coercive ways. These scenes also depicted the consequences of aggression and coercion as unpleasant. Other scenes showed the dolls working out their problems in a positive and helping manner, the consequence of which was pleasant rewards. The children exposed to the latter modeling condition showed significant decreases in aggressive behavior and corresponding increases in helping behavior. These results were maintained at a 2-mo. follow-up.

A more recent study by Friedrich and Stein (1975) investigated the effects of television programs on children's helping behavior. The researchers showed kindergarten children, in the space of one week, four 20-min. "Mr. Rogers' Neighborhood" programs. Viewing these programs produced some increase in the children's helping behavior during a puppet-play task, but it did not noticeably affect their helping in real life situations. However, when the television programs were paired with additional social training, significant increases in helping interactions occurred.

Although somewhat divergent in procedure, these two studies demonstrate that helping models can increase children's helping behavior. In a related study, Gelfand, Hartmann, Lamb, Smith, Mahan, and Paul (1974) examined another activity common in children. These investigators examined the influence of adult models on the strategy children used to teach a fellow classmate how to play a game. They discovered that when children were trained to play a marble-drop game by a punishing (coercive) model, they would train one of their classmates in the same manner. Conversely, if the children had been trained by a rewarding (helping) model, this was the strategy they would use to train their classmate. While the children who viewed the coercive model imitated that training strategy, the overall propensity of all the children was toward a positive or helping approach.

Katz and Melcher (Note 1) extended specific parameters of the Gelfand et al. (1974) research; namely, the effects of adult film-mediated models on how children learn to influence other children, whom they do not know, in an interpersonal context. This study compared three modeling conditions: (a) a helping model, in which children viewed a film of an adult model using frequent expressions of praise, encouragement, and support to influence the behavior of a child playing a marble-drop game; (b) a coercive model, in which children viewed a film of an adult model resorting to nagging and verbal coercion to influence a child playing the marble-drop game; and (c) a neutral model condition in which the adult model did not

interact with the child at all. After being exposed to one of these three modeling conditions, the subjects, who were third grade school children, were placed in a "teaching" position, i.e., they were asked to let a child in another room know how he was performing on a marble-drop game by pressing one of two levers on a panel. (In actuality there was no child.) Each child was told that if he/she pushed a lever marked with a smiling face and the word "good" on it, a green light would go on in the other room. This would inform the fictitious child that he was doing well on the game. Conversely, by pressing a second lever, which was marked with a frowning face and the word "bad" on it, a red light would come on signifying that the child in the other room was doing poorly on the game and needed to do better. The subjects were told that they could tell how the fictitious child was performing by watching a small window on the panel where the fictitious child's score would appear. An evaluative response was made as each new score appeared. Katz and Melcher (Note 1) hypothesized that children who observed the coercive model would press the lever marked "bad" most frequently, while those who observed the helping model would push the "good" lever most often. Those exposed to the neutral model would probably distribute their presses across the two levers but would likely tend to be more helping than coercive.

Unlike the Gelfand et al. study, the results of this study yielded no significant differences between the three modeling conditions. There was, however, a highly significant sex effect,

i.e., female subjects pressed the "bad" lever more often than the males, independent of their group belonging. This finding was somewhat perplexing, since the majority of studies on children's aggression (Nelson & Madsen, 1969; Sampson & Kardush, 1965; Sims, 1967; Tedeschi, Hiester, & Gahagan, 1969) indicate that girls tend to be less aggressive or assertive.

A possible explanation for the non-significant modeling effect in the Katz and Melcher study involves differences between what the children saw the model doing and what they were later asked to do. For example, Bryan and Walbek (1970) and Walbek (Note 2) discovered that children were inclined to imitate what an adult model said and did even if the model's words and actions were incongruent. When children were exposed to an adult model who admonished them to donate to a charity, yet refused to donate himself, the children would leave taped "messages" for other children exhorting them to donate, yet like the adult model, they refused to donate themselves. According to Bryan and Walbek (1970) these findings demonstrate the independent effects of words and actions on children's behavior. In summarizing the findings of the experiments mentioned above, Bryan and Schwartz (1971) suggest that, "The responses effected by various types of verbal and motor representations are relatively unknown, although both theory and data suggest the relative autonomy of much of the motor from much of the verbal system" (pp. 55-56).

The results of these experiments have been supported by researchers in other settings who have also noted a lack of

generalized imitation across different response modalities (Baer, Peterson, & Sherman, 1967; Garcia, Baer, & Firestone, 1971). In view of these findings, a very plausible explanation for the non-significant modeling effect in the Katz and Melcher study could involve the discrepancy that existed between the verbal feedback given by the model and the motor response the subjects were asked to make. If the subjects had been asked to provide verbal feedback, as they had observed the model doing in the film, then perhaps the impact of the modeling treatments would have been more pronounced.

In view of the above considerations, the purpose of the present study can best be described as two-fold. First, the basic questions posed in the Katz and Melcher study (i.e., what effect do film-mediated adult models have on children's helping responses toward an anonymous child?) will be reexamined. Secondly, the parameters of model presentation will be investigated to determine if congruency between a model's behavior and the response modality the children are asked to perform can enhance imitative effects.

Based on previous research findings (Baer, Peterson, & Sherman, 1967; Bryan & Walbek, 1970; Garcia, Baer, & Firestone, 1971; Walbek, Note 2), it is expected that congruency between the model's mode of responding and the children's (i.e., motor or verbal) will facilitate imitative behavior in the children. In view of the results of Gelfand et al. (1974), it is also expected that the overall propensity for all children will be more helping than coercive.

Method

Subjects

Subjects were 30 male and female third-grade students recruited from two public elementary schools. Nineteen of the students were female and 11 were male. Eighteen of the students were from a school that had recently been desegregated and was located in a middle-class neighborhood. The remaining 12 students were from an elementary school located in an upper-middle-class neighborhood. A consent letter, explaining what the experiment involved, was sent to the parents of prospective subjects asking permission for their children to participate in the study. Only children whose parents signed and returned the letter were asked to participate. (See Appendix A for a copy of the consent letter.) At the conclusion of the experiment, all of the children were "debriefed." That is, in a letter to the children's parents, the children were told the purpose of the study and that it is really much better to be nice than "nasty" when playing with others. This letter also gave the parents an address where they could write if they wanted additional information regarding the results of the study. (See Appendix B for a copy of this letter.)

Experimental Design

A 2 X 3 factorial design (Winer, 1971, p. 431) was used. The first factor consisted of the helping, coercive, and neutral modeling conditions utilized in the Katz and Melcher study. The second factor was the subject's two response modalities: motor (which was incongruent

with the model's feedback modality) and verbal (which was congruent with the model's feedback modality). Therefore, the six treatment groups consisted of: (a) helping model and motor response modality (HelpM), (b) coercive model and motor response modality (CoerM), (c) neutral model and motor response modality (NeuM), (d) helping model and verbal response modality (HelpV), (e) coercive model and verbal response modality (CoerV), and (f) neutral model and verbal response modality (NeuV). Each subject was randomly assigned to one of the six treatment groups.¹

Dependent Variables

The data of primary interest were the mean number of helping responses for each group of children. This was defined in two ways, one motor and one verbal. For the groups making a motor response (i.e., HelpM, CoerM, NeuM), helping responses were recorded using electromechanical equipment. The helping responses of the groups making verbal responses (i.e., HelpV, CoerV, NeuV) were recorded by human observers. For the latter groups, inter-observer reliability estimates were computed by dividing the number of times the two observers agreed by the number of agreements plus disagreements and multiplying the quotient by 100.

In addition to the measure described above, one secondary dependent measure was taken. This measure consisted of allowing each child to determine how many pieces of candy (0-7 pieces) the "boy" in the other room should receive for his performance on the game. This measure was taken to provide additional information regarding

the effects of the modeling condition and/or the modality of response on the children's imitative behavior.

Apparatus

The experiment was conducted in a 4.31m X 2.46m room (at the University of the Pacific) containing a table, a one-way mirror, two chairs, a Sony (Model CVM-194) video-tape monitor, and a marble maze game. On the table was a microphone and a response panel measuring 51cm X 56cm in size. On the front of the response panel were two levers. The lever on the right was marked with a yellow frowning face and the word "Bad." The lever on the left was marked with a yellow smiling face and the word "Good." When one or the other of these levers was pressed in a downward motion with a least 21 g. pressure, a microswitch was activated that operated a model LVE 421-09 electronic printing counter. The responses on each lever were recorded in two separate columns on standard 3 in. adding machine tape. In the top-center portion of the response panel, an electromechanical counter was located. This counter was used to present a sequence of scores for the children to evaluate as "good" or "bad." The counter was programmed in advance using standard electromechanical equipment that was located, along with the printing counter, in an adjacent control room. The microphone was connected to a Revox (Type A77) tape recorder that was also located in the control room.

Procedure

The procedure was essentially identical to that used in the Katz and Melcher (Note 1) study. Children were brought in groups

of three from their homes to the University of the Pacific by an undergraduate research assistant. Upon arriving at the university, the children were taken to a room where they waited with the research assistant until the experimenter, a 27-year-old male graduate student, escorted them one at a time to the experimental room. The child was brought into the experimental room, and was seated facing the video-tape monitor, facing away from the one-way mirror. After a few moments of casual conversation, the experimenter explained that the child was brought to the university to teach another child, unknown to the children, how to play a marble maze game. (See Appendix C for exact instructions.) The child was then asked to watch a short film (approximately 3 min.) to see how the game was played. Before starting the film, the experimenter told the child that it was very important to watch the film carefully, concentrating on the screen at all times. At this point, the experimenter started the film which depicted a male adult model observing a young boy playing the marble maze game.

Essentially, the film showed the following events. Each time the marble dropped through a hole in the maze, the model made either a helping comment, such as, "Good, you're doing great on that game," or a coercive comment, such as "Bad job, I think anybody could do better than you," depending on the modeling condition of the child. To determine how well the film was attended, the child was asked at the conclusion of the film to describe what the model and the boy were doing. All of the children indicated correctly that the man

was "watching" and/or "talking to" the boy while the boy played the game.

After viewing the film, the child was seated in front of the response panel and told that there was a boy in the next room who would be learning to play the same marble maze game the boy in the film was playing. The experimenter explained that although the child would never see this boy, the child would know how the boy was doing by watching the counter on top of the panel. The experimenter also told the child to give the anonymous boy feedback via, depending on the child's group belonging, speaking into the microphone or pressing the levers on the panel. The child, regardless of group belonging, was also told that positive feedback would turn on a green light and negative feedback would turn on a red light. The child was instructed to give the anonymous boy feedback each time a new score appeared on the counter. Altogether, 30 scores were shown. Thus each child had an opportunity to make 30 evaluative responses which could be either helping or coercive in nature.

At this point, the experimenter told the child that he was going to take the game into the next room and explain its use to the boy and that the child would be able to hear this explanation through a speaker that was built into the response panel. After asking if the child had any questions, the experimenter explained that it would probably take the anonymous boy about 15 min. to master the game, at which time the experimenter would come back in and give the child some candy for helping out.

In actuality, when the experimenter left the child alone, he went to the control room and turned on a short tape recording of his own voice explaining the operation of the game to a young boy and informing the boy that he would receive feedback on his progress from a child his own age located in another room. The tape-recorded voice further explained that this feedback would be given by two lights, a red one that would tell the boy he was doing poorly, and a green one that would tell him he was doing well.

At the conclusion of the tape, the child was presented with a series of 30 scores ranging from 3 to 45. Fifteen of these scores were positive (i.e., higher than the immediately preceding score), and 15 were negative (i.e., lower than the immediately preceding score). When the child had responded to all 30 scores, the experimenter again entered the room and thanked the child for helping. At this point, the experimenter explained that the anonymous boy could receive from 0 to 7 pieces of candy for his performance on the game and that he would like to know how many pieces the child thought the anonymous boy should get. The experimenter then asked why the child chose to provide the boy with the kind of information given. After the child answered these two questions, the experimenter again thanked the child and gave a small amount of candy for helping. The child was then instructed not to talk to classmates about what had been done and said because the experimenter wanted to surprise them. After that, the experimenter escorted the child back to the waiting room.

Results

Reliability for verbal responses was assessed by an independent observer for 6 (2 subjects from each of the 3 verbal groups) of the 15 subjects. The second observer listened to tapes of the 6 subjects' responses, scoring each response as helping or coercive. When the scores of the two observers were compared, interrater reliability ranged from 93% to 100% with an average of 99%.

The number of helping responses by the children in the six groups is reported in Table 1.² Means and standard deviations are shown in Figure 1.

A two-way analysis of variance (response modality X modeling) was performed on the data in Table 1 and yielded a significant main effect for modeling, $F(2,24)=5.55$, $p<.05$. The main effect for response modality and the interaction effect were not significant [$F(1,24)=.67$, $p>.05$ & $F(2,24)=2.77$, $p>.05$, respectively].

Three families of Dunns planned multiple comparisons, which are presented in Table 2, were performed to determine simple effects between the modeling conditions within the two response modalities and between the helping and coercive modeling conditions across the two response modalities. The comparisons within the verbal response modality indicated a significantly greater number of helping responses from both the helping group and the neutral group than from the coercive group, ($p<.05$). The comparison between the helping group and the neutral group was not significant.

Table 1

Number of Helping Responses and Sex of Subject
For the Six Treatment Groups

Modeling Condition	Verbal			Motor		
	Helping	Coercive	Neutral	Helping	Coercive	Neutral
	18 (F)	9 (F)	28 (M)	7 (F)	13 (F)	20 (F)
	22 (F)	20 (M)	30 (M)	19 (F)	26 (M)	25 (F)
	30 (F)	0 (M)	22 (F)	16 (F)	6 (M)	27 (F)
	30 (F)	8 (F)	19 (M)	26 (M)	11 (F)	18 (F)
	28 (M)	15 (F)	15 (F)	17 (M)	21 (M)	13 (F)

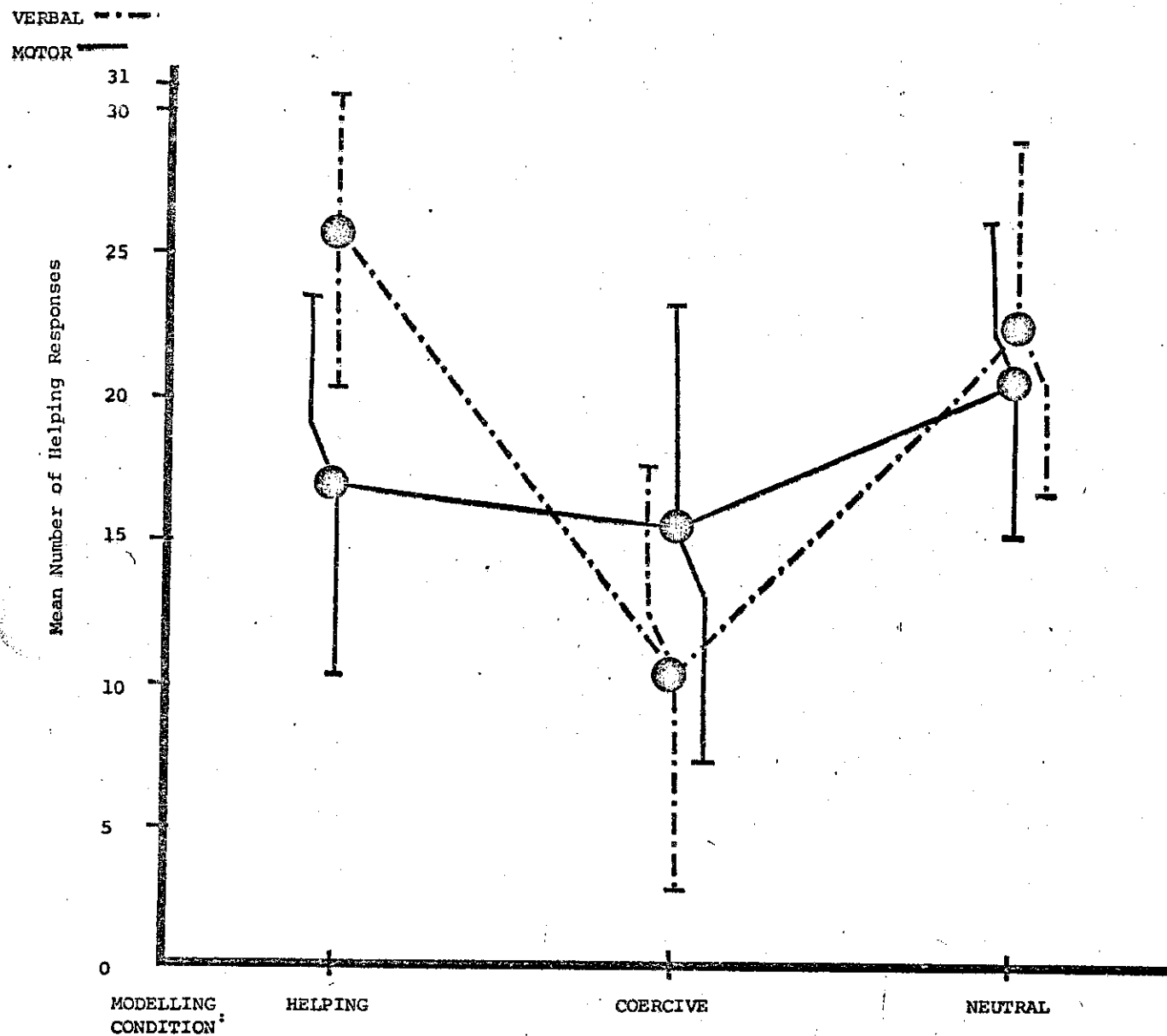


Figure 1. Means and Standard Deviations for Helping Responses for the Six Treatment Groups

Table 2
Differences Among Means for the
Three Families of Dunns Comparisons

	CoerV	NeuV	HelpV
CoerV	--	12.4*	15.2*
NeuV		--	2.8
HelpV			---

	CoerM	HelpM	NeuM
CoerM	--	1.6	5.2
HelpM		---	3.6
NeuM			---

	HelpM	HelpV		CoerV	CoerM
HelpM	--	8.6	CoerV	--	.5
HelpV		--	CoerM		---

*p < .05

Unlike the verbal modality, none of the three comparisons within the motor response modality (i.e., HelpM and CoerM; CoerM and NeuM; HelpM and NeuM) was significant.

The two comparisons performed across the response modalities (i.e., HelpV and HelpM; CoerV and CoerM) were also not significant.

Means and standard deviations for the number of candies the subjects wanted to give the anonymous child are reported in Figure 2. A two-way analysis of variance (response modality X modeling) performed on these data yielded no significant effects.

Three families of Dunns planned multiple comparisons yielded no significant differences between the three modeling groups in either the verbal response modality or in the motor response modality. Comparisons for the two helping groups and the two coercive groups across the two response modalities were also not significant.

These data indicate that while the subjects in the verbal modality groups adopted the feedback strategies of their respective adult models, this did not affect their decision about how to reward the child with candy. Subjects in all six groups were inclined to award the anonymous child all or nearly all of the candies available to them.

Statements the subjects made when asked why they had given the kind of information they gave to the anonymous child were recorded verbatim and analyzed to determine if they were congruent with the subjects' modeling treatment. A statement was rated as positive if it had a rewarding or complimentary nature, for example, "He was

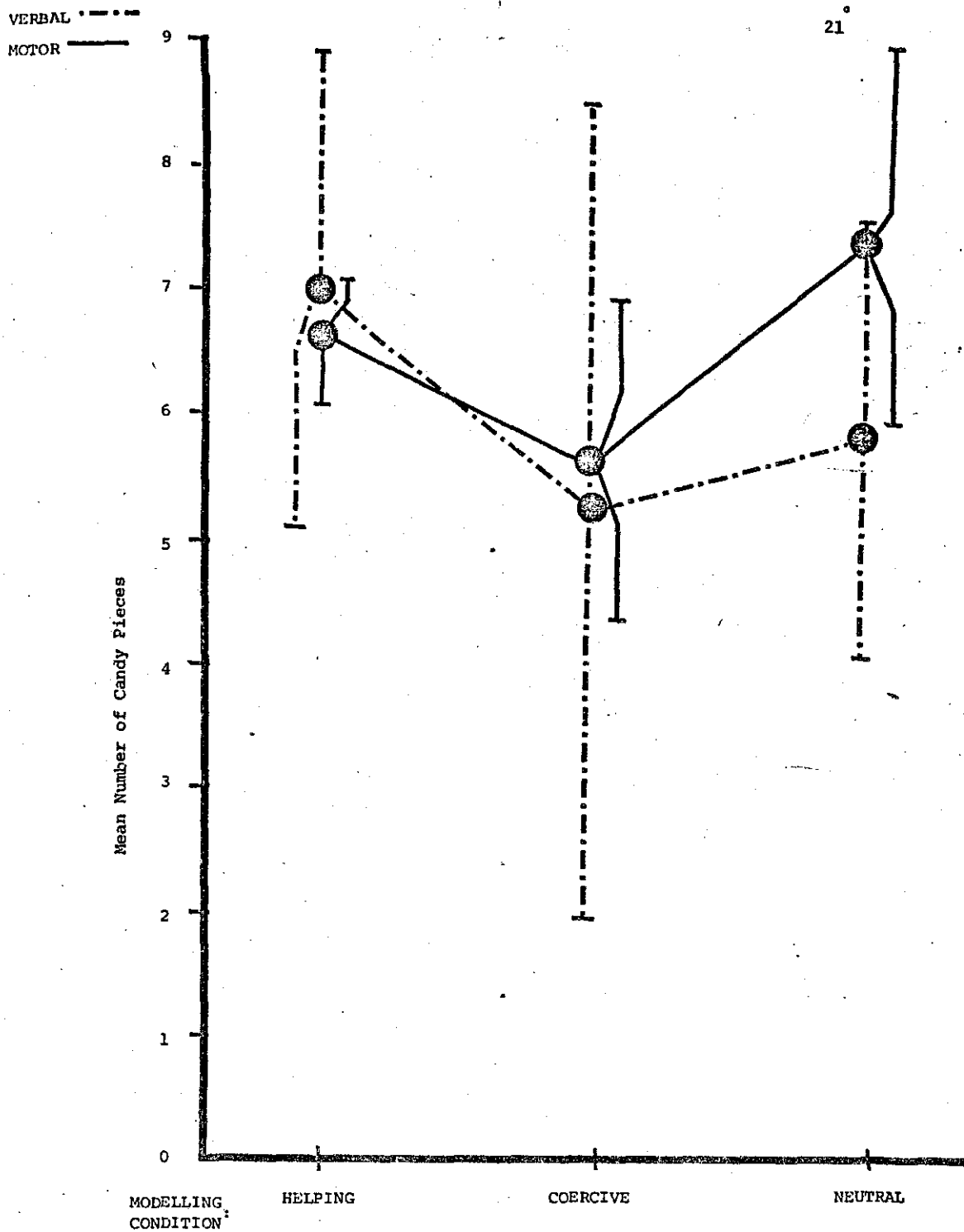


Figure 2. Means and Standard Deviations for the Candy Pieces Awarded by Subjects in the Six Treatment Groups.

doing good." Attention was also paid to adjectives before positive or negative words. For example, if a subject said, "He did a little bit good," then the statement was rated as negative. Conversely, if a subject said, "He did a little bit bad," then the statement was rated as positive.

Statements were rated as negative if they were coercive or punishing, e.g., "He was doing bad," or "Most of the numbers were bad." Statements were rated as neutral if the subject indicated that the performance was both good and bad, e.g., "Sometimes the numbers were good and sometimes they were bad"; or if the statement was not evaluative at all, e.g., "That's just the way he did," or "So he could learn the game."

The statements were rated by two raters independently. The interrater reliability, which was computed by dividing the number of agreements by the total number of ratings, was 100%.

The statement ratings for the six treatment conditions are reported in Table 3. A Chi square analysis performed on the statement ratings for the three modeling conditions within the verbal response modality yielded a significant difference between them, $\chi^2(4)=9.61$, $p<.05$. Table 3 indicates that these groups made statements that were largely consistent with the feedback strategy they used during the game (i.e., in the verbal helping group, 4 of 5 statements were positive; in the verbal coercive group, 3 of 5 statements were negative; and in the verbal neutral group, 3 of 5 statements were neutral). Conversely, when a Chi square analysis was performed on the statement

Table 3
Frequency of Statement Ratings for
Subjects in the Six Treatment Groups

Group	Statements		
	Positive	Negative	Neutral
Motor			
Helping	1	0	4
Coercive	4	0	1
Neutral	0	1	4
Verbal			
Helping	4	0	1
Coercive	1	3	1
Neutral	2	0	3

ratings for the three modeling conditions within the motor response modality, the results were not significant.

Discussion

The results of the study demonstrate that children will adopt the teaching strategy of an adult model when asked to teach another child whom they do not know. Furthermore, the data indicate that children's imitation of the model's behavior will be more pronounced if they observe a model who is providing feedback to a learner in the same response modality that they will later be asked to perform.

As predicted, the children who responded verbally imitated the feedback strategy of the adult model, whether it was coercive or helping in nature. Conversely, there were no significant differences between the feedback strategies of the children who responded by pushing the levers (i.e., in the motor modality), thus replicating the findings of the Katz and Melcher (Note 1) study.

The fact that there was a significantly greater amount of imitation on the part of children who were asked to respond in the verbal response modality, which was congruent with the model's behavior, than those children who responded in the motor response modality, which was incongruent with the model's behavior, strongly supports the claim of Bryan et al. (1971) concerning a relative independence between the verbal and motor response systems.

The data from the present study also extend the findings of the Gelfand et al. (1974) research by demonstrating that children are inclined to imitate film-mediated models who engage in helping or

coercive behavior. This is an important finding, since much of a child's socialization training is done vicariously, either in front of a television set or at a movie theater. Also, within educational settings, educators are relying more heavily on audio-visual teaching aids to shape children's social and intellectual behavior.

Another expected finding in this research that supports the Gelfand et al. data was the general tendency for all subjects to be more helping than coercive. The neutral model groups in both response modalities had very high means for helping responses, and even the CoerV group had a mean of 10.4 helping responses out of 30 response opportunities. This finding places additional emphasis on the vital role of adult models to perpetuate the prosocial propensities that many children appear to possess.

The independence of motor response systems from the verbal response systems was demonstrated in the present study. These data provide theoretical support for several provocative investigations that have been conducted in applied settings. These studies (Gardner, 1972; Gladstone & Spencer, 1977) demonstrated the importance of appropriate modeling for increasing skill and usage of behavior modification techniques in applied settings. In one of these studies (Gardner, 1972), the researcher demonstrated that persons who were instructed in the use of behavior modification techniques in a classroom lecture format only were less skilled in using these techniques in actual practice than persons who had observed a model and role-played the use of the techniques. This study illustrates

the autonomy and lack of generalization that seems to exist between motor and verbal systems.

The question of whether or not the results of this study can be generalized to more naturalistic settings such as homes and schools is an important one indeed. As was mentioned earlier, some data already exist from natural settings to strongly suggest that not only "telling" but "showing" is required when one wants to produce essential and durable behavior change. Furthermore, Bryan and his colleagues demonstrated the benefits to be derived from consistent verbal and behavioral messages to children. If a child is expected to acquire helping behavior that is consistent in both word and deed, then the responsibility rests with the adult community to provide that child with consistent role models. How to engender this type of consistency in parents, teachers, and other adults is a question that deserves further investigation.

It is possible that the results of this study could be explained in terms of a practice effect, since the children in the motor response groups were asked to make a novel response, while the children in the verbal response groups responded in a much more natural and familiar modality. This hypothesis could be tested easily by repeating the study and making the motor response groups congruent with model behavior. One would expect, based on the findings of the present study, that the results of this proposed investigation would yield pronounced modeling effects in the motor response groups.

It is also possible that the results of the present study are of limited generalizability to children of different age or socioeconomic groups. There did not appear to be any noticeable differences between the eight-year-old and nine-year-old children in this study; however, that does not preclude differences that could occur in older or younger age groups. While children from three socioeconomic classes were included in this study, an unequal representation of these three classes prevented an adequate analysis of the effect of class status on the children's responses. Both age and socioeconomic status have been shown in previous studies to influence children's prosocial responses. Therefore both of these areas should be examined in future studies regarding response modality and the imitation of prosocial behavior.

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Footnotes

¹Because there was a question as to whether or not enough subjects could be recruited to complete the study, subjects assigned to the motor neutral control group were from the second elementary school only.

²Due to an unequal number of male and female subjects (19 female, 11 male) and random assignment to conditions, there were groups (i.e., HelpV and NeuM) largely composed of females. This fact made it unfeasible to analyze the effect sex might have had on the subjects' responses across the six conditions. There did not appear, however, to be as marked an influence of sex in the present study as was found in the Katz and Melcher research.

APPENDIX

- A. Copy of consent letter.
- B. Debriefing letter.
- C. Instructions to subjects.

APPENDIX A

Dear Parents:

The purpose of my letter is to request permission for your child to participate in a study that will begin soon at the University of the Pacific. Our research is broadly concerned with the important issue of learning in children. The study we would like your child to take part in is specifically concerned with how children learn to get along with their friends and classmates.

Sometimes parents are concerned that their children have been selected to participate in a study such as this because of their children's behavior in school. This is not the case. We hope to involve all of the 3rd grade children at Adams School. Incidentally, the identity of children who take part will be kept anonymous.

This study has been thoroughly discussed with Mrs. Mae Hill, school principal at John Adams, as well as Ms. Joann Miller, director of research for the Stockton Unified School District. In addition, the study has been approved by the Research Committee at U.O.P., which oversees most research carried out at the University that involves human subjects. Obviously, though, it is necessary to obtain the consent and approval of parents before a study of this kind can get off the ground. Hence, this letter.

It should be noted that participation in the study will take about one hour of your child's time, and each child will be seen only once. We are not asking for an extended time commitment. Only an opportunity to meet with your child briefly.

As noted above, the study will take place at U.O.P. Because we don't want to disrupt your child's classroom activities, we will be running the study after school hours and on Saturdays. Arrangements will be made to chaperon your child to and from the University, once we have talked with you about a time when your child might be available.

I have enclosed a permission slip in order that you may indicate whether you wish your child to take part in this study. If you would like your child to participate, please detach the slip and have him return it to Mrs. Hill's office or his teacher

within the next four days. We have also asked that you give us your phone number so we can call you to arrange for a convenient time.

In closing, let me emphasize that this study will not involve anything unpleasant for your child, nor will it involve any psychological testing. On the contrary, it is the kind of study that has proven to be an enjoyable experience for children who have already worked with us. We expect it will be fun for your child as well.

We hope to work with as many of the 3rd graders in your child's class as possible, so your cooperation in this matter is greatly appreciated. In the event that you have any further questions about your child's participation, please feel free to contact me at U.O.P. My phone number is 946-2132.

Sincerely,

Wallace A. Melcher
Graduate Student, Psychology
University of the Pacific

Roger C. Katz, Ph.D.
Asst. Prof., Psychology

(detach here)

I give my permission to have my child, _____,
participate in the study described above.

(your signature)

(home phone number)

Please note that all children will be given a small amount of candy as part of their participation. If your child is allergic to sweets, please indicate below.

My child is allergic to sweets. Yes _____ No _____

APPENDIX B

Wallace A. Melcher
716 San Lucas Street
Stockton, California 95207

February 13, 1978

Dear Parent,

We express out appreciation to you and your child for helping with our research project at the University of the Pacific. We commend you for the polite way that your child behaved while at the University. This type of behavior is truly a credit to you as a parent.

Please tell your child that our study, which was designed to tell us how children behave after seeing a grouchy man or a nice man on T.V., was a success. Almost all of the children were inclined to act nicely even after seeing a grouchy man.

Please tell your child we are proud of all of the children for their desire to act nicely and encourage them to act this way all of the time.

If you would like more information on the results of our study, please write to me at this address:

716 San Lucas Street
Stockton, California 95207

Once again, thank you for your kind cooperation.

Sincerely,

Wallace A. Melcher
Graduate Student, UOP

APPENDIX C

Experiment⁷³er's Instructions to Subject

After introducing himself to the child and talking with him casually (e.g., What is your name, what do you like best in school, and have you ever come to the university before?) for a few moments, the experimenter proceeded with the following instructions: "(Child's name), we asked you to come to the university today so you could help us learn the best way to teach a boy, your age, to play this game." (Showed subject marble maze game). Have you ever seen this game before?" (Subject's response.) "So you will know how this game is played, I'd like you to watch a short movie." (Experimenter pointed to VTR monitor.) "(Child's name), it is very important that you see and hear all that is said and done during the movie; so I want you to keep your eyes right on the screen." (Experimenter ran the tape of model observing young boy.) At the end of the tape, the experimenter asked, "What was the boy in the movie doing?" (Child's reply.) "What was the man in the film doing?" When the child responded correctly, the experimenter said, "Good, you watched very carefully!"

The experimenter then seated the child in front of the response panel and said, "(Child's name), now I want you to teach a boy in the next room to play this game. You won't be able to see the boy, but you can tell him how he is doing by pressing one of these

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levers/speaking into this microphone." For those subjects who made motor responses, the experimenter gave these instructions: "(Child's name), if you want to tell the boy he is doing well, press this lever marked 'good' and a green light will go on in the boy's room. If you want to tell the boy he is doing badly, press this lever marked 'bad' and a red light will go on in the other room." The same instructions were given to the verbal response group, except they were asked to tell the boy how he was doing by speaking into the microphone on the table in front of them. At this point, the experimenter continued, "(Child's name), so that you will know how the boy is doing on the game, I want you to keep an eye on this little window up here." (pointed to electro-mechanical counter near top of panel.) "As the boy tries to move the marble through this maze (pointed to marble maze game), from time to time the marble will fall in these holes with numbers by them. Do you see the numbers?" When the child replied affirmatively, the experimenter asked, "What is the number next to this hole?" (Pointed to a number.) When the child correctly identified the number, the experimenter said, "Good! The numbers next to these holes will be the numbers you will see in the little window. The higher the number, the closer the boy is to finishing the game! As each number comes into the window, I want you to let the boy

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know how he is doing by pressing one of the levers/speaking into the microphone. Now let's pretend, suppose the boy is rolling the marble along and it falls into this hole. What is the number next to it?" When the subject correctly identified the number, the experimenter continued, "Right! And that number will be the one you see in the little window. Then what are you going to do?" When the child finished explaining to the experimenter about his respective modality of response, the experimenter said, "Good! Now after you've told the boy how he is doing, this little light next to the window (pointed to small red light on electromechanical counter) will come on; and that is your signal to reach up here like this (took subject's hand and guided it) and press this little button. When you do that, all zeroes will be in the window and the light will go off. Then you just wait for the boy's next score." At this point, the experimenter asked the subject to once again go through all the steps and said, "Good. Do you have any questions?" After answering any questions the child may have had, the experimenter said, "Now I'm going into the other room to explain this game to the boy. You'll be able to hear my explanation because there is a speaker inside this box." (Pointed to response panel.) As the experimenter left, he told the subject, "It should take the boy about 15 min. to finish this

APPENDIX C

game. When you think he's through, just stay in this room and I'll come back in. Also, because you were so nice to come here today, I'm going to give you a candy surprise when I come back."

At this point, the experimenter left the subject and entered the control room. After the child had heard the tape and responded to the 30 scores, the experimenter reentered the room and said,

"(Child's name), you were a big help. Thanks. Now we can give the boy between zero and seven pieces of candy for his performance on the game. How many do you think we ought to give him?" The experimenter then asked, "(Child's name), why did you choose to give the boy the kind of information you gave him?" After the child responded to these two questions, the experimenter again thanked him for his help and gave him some candy.